



**INTERNATIONAL ISLAMIC  
UNIVERSITY CHITTAGONG**

Department of Computer Science & Engineering (CSE)

## Assignment

<b>Course Code:</b>	CSE-3638
<b>Course Title:</b>	Software Engineering Lab
<b>Submission Date</b>	09-01-2021

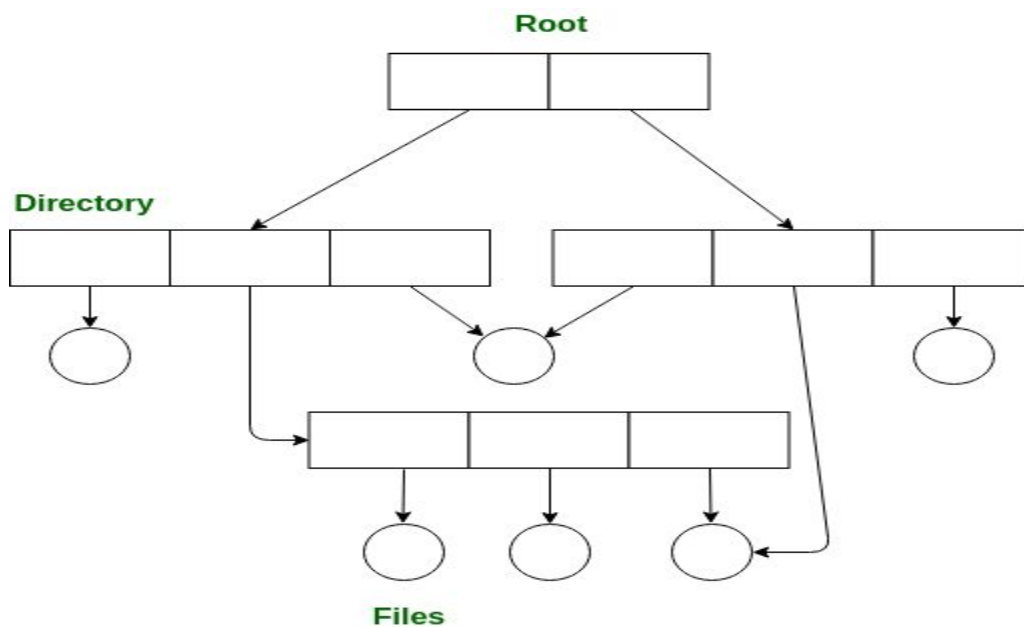
Submitted To	Submitted By
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- **Acyclic graph directory –**

An acyclic graph is a graph with no cycle and allows to share subdirectories and files. The same file or subdirectories may be in two different directories. It is a natural generalization of the tree-structured directory.

It is used in situations like when two programmers are working on a joint project and they need to access files. The associated files are stored in a subdirectory, separating them from other projects and files of other programmers, since they are working on a joint project so they want the subdirectories to be into their own directories. The common subdirectories should be shared. So here we use Acyclic directories.

It is the point to note that a shared file is not the same as a copy file . If any programmer makes some changes in the subdirectory it will reflect in both subdirectories.



**Advantages:**

- We can share files.
- Searching is easy due to different-different paths.

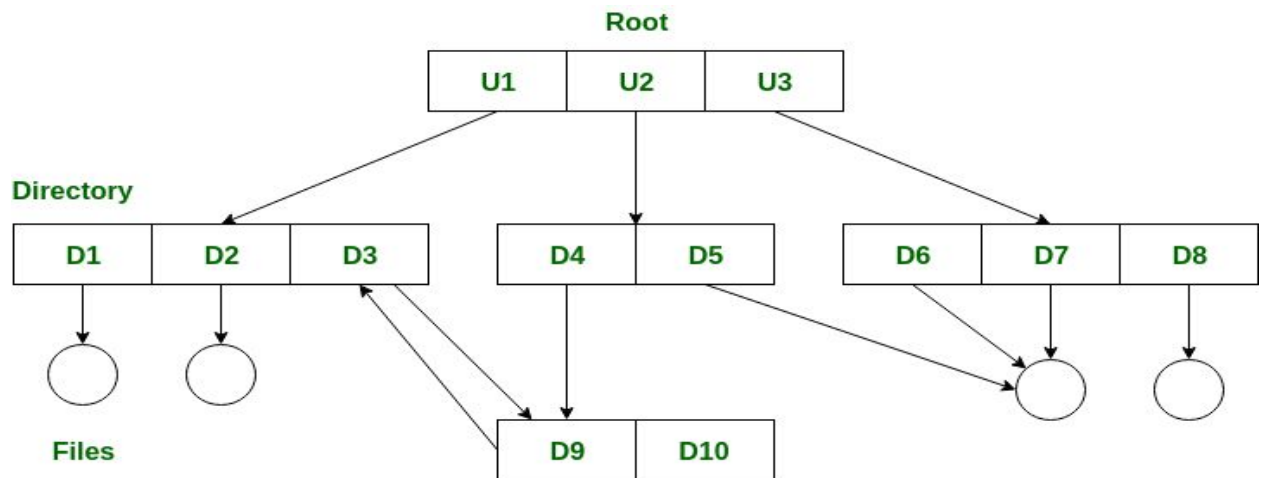
- **Disadvantages:**

- We share the files via linking, in case of deleting it may create the problem,
- If the link is softlink then after deleting the file we left with a dangling pointer.
- In the case of hardlink, to delete a file we have to delete all the references associated with it.

- **Cyclic graph directory structure –**

In general graph directory structure, cycles are allowed within a directory structure where multiple directories can be derived from more than one parent directory.

The main problem with this kind of directory structure is to calculate total size or space that has been taken by the files and directories.



**Advantages:**

- It allows cycles.
- It is more flexible than other directories structure.

- **Disadvantages:**

- It is more costly than others.

- It needs garbage collection.